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#### REMARKS

Claims 1-5 and 16 are pending in this Application.

Applicant's counsel greatly appreciates the courtesies extended by the Examiner in the personal interview of August 18, 2004. In the interview, Applicant's counsel explained the differences between the invention recited in Applicant's claims 1 and 16 and the prior art of record (particularly Ichikawa, Hunsinger et al. and Mitobe) as described herein, and the Examiner concurred that the prior art of record fails to teach or suggest the feature of "an absolute value of a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at edges of the first and second strips, is within a range of angles of approximately  $45 \pm 10^\circ$  or approximately  $135 \pm 10^\circ$ , when a center of a respective one of said at least two basic sections is a reference position for the range of angles" as recited in Applicant's claims 1 and 16.

Claims 1-4 and 6 were rejected under 35 U.S.C. § 102(e) as being anticipated by Ichikawa (US 6,462,633). Claims 1-4 and 6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Hunsinger et al. (US 4,162,465). Claims 1-4 and 6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Mitobe (EP 1 143 612). Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Ichikawa et al., Hunsinger et al. or Mitobe in view of Graebner et al. (U.S. 6,049,155). Applicant notes that the Examiner has referred to claim 6 in the prior art rejections. This is clearly incorrect because claim 6 has been canceled. Thus, Applicant has assumed that the Examiner intended to refer to claim 16, instead of claim 6. Applicant respectfully traverses the rejections of claims 1-5 and 16.

Claim 1 recites:

"A surface acoustic wave device, comprising:  
a piezoelectric substrate; and  
at least two basic sections disposed on said piezoelectric substrate,  
each of the at least two basic sections including an asymmetrical double

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electrode defining a half wavelength section and having first and second strips with different widths from each other;

wherein **an absolute value of a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at edges of the first and second strips, is within a range of angles of approximately  $45 \pm 10^\circ$  or approximately  $135 \pm 10^\circ$ , when a center of a respective one of said at least two basic sections is a reference position for the range of angles.**" (emphasis added)

Claim 16 recites features that are similar to the features recited in claim 1, including the above-emphasized features.

With the improved features of claims 1 and 16, Applicant has been able to provide a surface acoustic wave device using an asymmetrical double electrode with superior unidirectionality of surface acoustic wave propagation while effectively and easily controlling the reflection amount per basic section (see, for example, the second full paragraph on page 8 of the originally filed Specification).

The Examiner noted that Ichikawa teaches, in col. 8, lines 45-52, that "it may be possible to adjust vectors E11, E22, E33, E44, so that these are situated in a first quadrant between  $90^\circ$  and  $0^\circ$ ." From col. 8, lines 45-52 of Ichikawa, the Examiner concluded that Ichikawa teaches a vector angle for a reflection center of  $45 \pm 10^\circ$  because the quadrant between  $90^\circ$  and  $0^\circ$  includes the angles of  $45 \pm 10^\circ$ . Applicant respectfully disagrees.

First, E11, E22, E33 and E44 of Ichikawa are merely the reflection vectors at individual edges E1, E2, E3 and E4 of the electrode fingers, and are clearly not "a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at the edges of the first and second strips" as recited in Applicant's claims 1 and 16.

Thus, col. 8, lines 45-52 of Ichikawa certainly cannot be fairly construed as teaching "a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at the edges of the first and second strips" as recited in Applicant's claims 1 and 16. Col. 8, lines 45-52 of Ichikawa merely

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teaches that one or more of the individual reflection vectors at edges of the first and second strips could be in the quadrant between  $90^\circ$  and  $0^\circ$ , and teaches absolutely nothing at all about "a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at the edges of the first and second strips" as recited in Applicant's claims 1 and 16.

In fact, the only value disclosed in Ichikawa for a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at the edges of the first and second strips is  $0^\circ$ , since Ichikawa discloses, in col. 8, lines 45-48, that "in the above-mentioned example, the interval and width of the electrode fingers are so adjusted that a resultant outcome of the vectors E11, E22, E33 and E44 except the vector A1 becomes 0." Ichikawa fails to teach or suggest that the vector angle of a reflection center could or should have any other values other than  $0^\circ$ , much less any other specific values for the vector angle of a reflection center.

Second, even assuming *arguendo*, that Ichikawa teaches a vector angle of the reflection center that is in the quadrant between  $90^\circ$  and  $0^\circ$ , the mere disclosure of a vector angle being somewhere in the quadrant between  $90^\circ$  and  $0^\circ$ , certainly does NOT anticipate Applicant's claimed invention. There are many values in the quadrant between  $90^\circ$  and  $0^\circ$  which are outside the range of values of  $45 \pm 10^\circ$  recited in Applicant's claims 1 and 16. Since Ichikawa fails to teach or suggest any specific values within the quadrant between  $90^\circ$  and  $0^\circ$ , and certainly fails to teach or suggest any values in the range of  $45 \pm 10^\circ$ , Applicant respectfully submits that Ichikawa clearly fails to anticipate Applicant's claims 1 and 16, as alleged by the Examiner.

Thus, contrary to the Examiner's allegations, Ichikawa clearly fails to teach or suggest the feature of "an absolute value of a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at the edges of the first and second strips, is within a range of angles of approximately  $45 \pm 10^\circ$  or approximately  $135 \pm 10^\circ$ , when the center of a respective one of said at least two basic sections is a reference position for the range of angles" recited in Applicant's

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claims 1 and 16.

With respect to Hunsinger et al. and Mitobe, the Examiner alleged that "as the claimed structure is shown by the prior art, the claimed functionality must be met." Applicant respectfully disagrees.

Hunsinger et al. teaches, in col. 5, lines 16-34, that the total MEL reflection in the composition of the four components (which appears to be similar to the vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at the edges of the first and second strips recited in the Applicant's invention) has a phase of approximately  $162^\circ$ . Thus, at best, Hunsinger et al. specifically teaches a vector angle of a reflection center of  $162^\circ$ , which is clearly outside of the ranges of values recited in Applicant's claims 1 and 16. Hunsinger et al. fails to teach or suggest any other specific values for the vector angle of a reflection center, or that any other values could or should be used.

Thus, contrary to the Examiner's allegations, not only does Hunsinger et al. fail to teach or suggest the claimed "functionality," but Hunsinger et al. specifically teaches a value for the vector angle of a reflection center that is clearly outside of the claimed ranges of vector angles. Therefore, Hunsinger et al. fails to teach or suggest the feature of "an absolute value of a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at the edges of the first and second strips, is within a range of angles of approximately  $45 \pm 10^\circ$  or approximately  $135 \pm 10^\circ$ , when the center of a respective one of said at least two basic sections is a reference position for the range of angles" recited in Applicant's claims 1 and 16.

Figs. 3B, 3D, 6B and 6D of Mitobe teach that a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at the edges of the first and second strips has the values of  $179.97^\circ$ ,  $0.03^\circ$ ,  $179.99^\circ$  and  $0.001^\circ$ . Each of these values is clearly outside of the ranges of values for the vector angle of the reflection center recited in Applicant's claims 1 and 16. Mitobe fails to teach or suggest any other values for the vector angle of a reflection center, or that any

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other values could or should be used.

Thus, contrary to the Examiner's allegations, not only does Mitobe fail to teach or suggest the claimed "functionality," but Mitobe specifically teaches values for the vector angle of a reflection center that are clearly outside of the claimed ranges. Therefore, Mitobe clearly fails to teach or suggest the feature of "an absolute value of a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at the edges of the first and second strips, is within a range of angles of approximately  $45 \pm 10^\circ$  or approximately  $135 \pm 10^\circ$ , when the center of a respective one of said at least two basic sections is a reference position for the range of angles" recited in Applicant's claims 1 and 16.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejections of claims 1-4 and 16 over Ichikawa, Hunsinger et al. and Mitobe.

The Examiner has relied upon Graebner et al. to allegedly cure various deficiencies in Ichikawa. However, Graebner et al. fails to teach or suggest the feature of "an asymmetrical double electrode defining a half wavelength section and having first and second strips with different widths from each other" and "wherein an absolute value of a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at edges of the first and second strips, is within a range of angles of approximately  $45 \pm 10^\circ$  or approximately  $135 \pm 10^\circ$ , when a center of a respective one of said at least two basic sections is a reference position for the range of angles" as recited in Applicant's claims 1 and 16.

Accordingly, Applicant respectfully submits that Ichikawa, Hunsinger et al., Mitobe and Graebner et al., applied alone or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in claims 1 and 16 of the present application. Claims 2-5 depend upon claim 1 and are therefore allowable for at least the reasons that claim 1 is allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt

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allowance are solicited.

To the extent necessary, Applicant petitions the Commissioner for a One-month extension of time, extending to September 7, 2004, the period for response to the Office Action dated May 7, 2004.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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